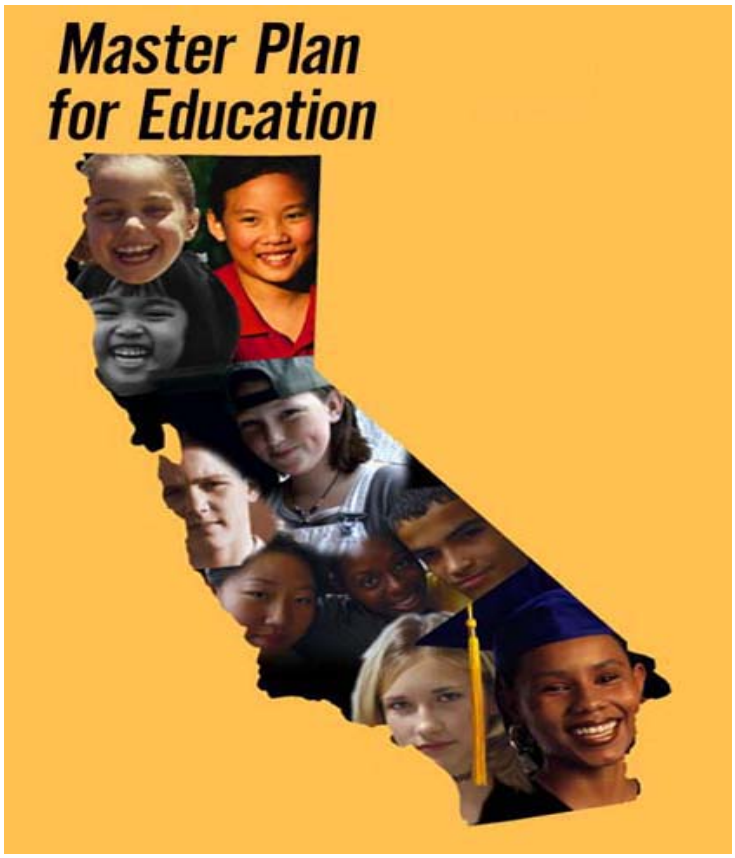
Joint Committee to Develop a Master Plan for Education – Kindergarten through University

Workforce Preparation and Business Linkages Strategic Planning Working Group

Final Report



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Executive Summary

This report is grounded in a fundamental principle of the Master Plan effort, as well as the workgroup's overarching philosophy -- that all students should be better prepared academically, regardless of where they may enter or exit the K-16 system. For California students to participate fully in the emerging global, technology-based economy, it is critical that they attain higher levels of achievement in core academic subject areas, especially, reading, writing, mathematics, and science. In the 21st Century, business and industry are demanding individuals who have high degrees of academic knowledge and who can apply that knowledge in an increasingly technology-rich workplace.

The workforce offers a diverse array of opportunities. While, almost seven in ten job openings now require postsecondary degrees or certificates, there is currently a serious shortage of skilled workers, with more than 61 million workers estimated to retire over the next three decades.

To foster greater learning among the full population of students, the Working Group recommends that instruction be more contextualized -- blending theory with application -- across the full curricula. In addition, this report calls for widespread implementation of career guidance and advisement across all levels of education to provide students with a greater understanding of resources and varied opportunities available to them at major junctures, in order that they are able to make quality decisions about future careers and/or postsecondary choices.

To facilitate this decision-making, the report asserts that the workforce preparation programs across all levels of education must be aligned and have some linkage to workforce training programs in the state and the labor market. There must be strong articulation of career technical programs within the education system. In order to maximize the opportunity for program improvement over time, data should be available to permit analysis of student achievement, as well as institutional performance. Programs which claim to have an impact on students' success in the labor market should be held accountable, to some degree, for the labor market success of their students and for providing evidence of the extent to which this claim is accurate. The ability to document student achievement in acquiring appropriate workforce skills, to make both quantitative and qualitative evaluations of program effectiveness, and *to identify which programs result in higher earnings and job placement,* for all students are fundamental goals for linkage to statewide workforce preparation programs. The Legislature should make accountability for outcomes highly visible and public.

This proposed structure engages the full system of education and sends the message that the state must do better. Simply put, the interest of the student must be at the heart of every structural consideration. The pace of the state's economy is increasing exponentially, while the pace of workforce preparation programs and the education system is moving more slowly. To best serve the students, there must be greater connectivity and synchronicity to facilitate their transition to the workforce, immediately upon graduation from high school, after a postsecondary completion, and/or over a lifetime of learning.

Summary of Recommendations

ACADEMIC INTEGRATION

1.1 Integrate academics and career preparation throughout K-16.

1.2 Extend School-to-Career (STC) concept across K-University.

1.3 Increase resources for career guidance and assistance to students.

1.4 Expand recruitment for counselors and workforce teachers.

1.5 Improve Professional Development for Counselors and Teachers.

ALIGNMENT

2.1 The state should establish the following roles and responsibilities for a statewide system of career/workforce preparation programs in education:

- Elementary schools shall be responsible for introducing career awareness to students.
- Middle schools shall be responsible for initiating career exploration to students.
- Secondary schools shall be responsible for providing school-to-career and employment preparation opportunities to students through programs offered at school and business sites.
- Community colleges shall be responsible for providing expanded employment training programs in conjunction with specialized courses, career certificates, and the AA degree for adults. The training may be in high schools and ROCPs and/or articulated programs leading to four-year college degrees.
- State-approved Private Postsecondary Institutions, Continuing Education, University Extension, Employer-provided training, and Non LEA entities, such as WIA Board Community Partners, shall provide employment training programs leading to specific jobs and that are responsive to industry requirements for professional development and license renewal.
- Public and private colleges and universities shall jointly be responsible for preparing associate, baccalaureate, and advanced degree graduates for productive roles as problem solvers, innovators, and leaders. All three public postsecondary systems should give prominent consideration to the state's changing economic needs and to emerging workforce opportunities for graduates, as factors in academic and strategic planning.

2.2 The alignment of career technical programs should be broad in scope.

2.3 The structure of a career/workforce preparation system should reflect a tightly - coupled network model, characterized by relatively autonomous nodes of education/training providers, intermediary industry, trade, and professional organizations;

strategic connections to the labor force; and a high level of communication among network members.

ACCOUNTABILITY

3.1 The state should expand the current workforce report card to include K-University programs.

3.2 The state should expand student data collection system and link to postsecondary institutions and the Employment Development Department (EDD).

3.3 The state should focus some portion of postsecondary funding on program/certificate/degree completion, time to completion, and education/labor market outcomes rather than only enrollment.

RESOURCES

4.1 Any proposed funding model must recognize in its formula for adequacy:

- **The costs of recruiting, education and professional development for staff in career technical programs, and career technical learning strategies; and**

- **The costs associated with the instructional facilities and equipment required to delivering instruction in career technical programs.**

4.2 Consideration should be given to granting the educational segments flexibility in their internal allocation of funds to address the higher costs associated with career, technical and scientific instruction and contextualized learning more broadly. Specifically:

- **The differential cost of recruiting, education and retaining teachers, faculty and support staff in career, technical and scientific disciplines;**

- **The differential costs associated with the instructional facilities and equipment required to deliver instruction in career, technical and scientific fields; and**

- **The differential costs associated with contextualized learning, including laboratory, field and applied industry experiences.**

PRIVATE POSTSECONDARY

5.1 The Joint Committee should conduct a review to determine the most efficacious and effective placement of governance for the Bureau for Private Postsecondary and Vocational Education (BPPVE).

Vision Statement

The Workforce Preparation and Business Linkages Strategic Planning Group's goal envisions a greatly revitalized educational system driven by increasingly dynamic programs of integrated and contextualized instructional strategies, which engage all students. The system will provide multiple entrance and exit points over a lifetime of learning and work and will foster broad, equitable access to occupational and career opportunities at all levels of the state's economy.

Equitable and adequate investments will fuel professional development and instructional innovation to support a well-qualified teaching force strengthened by collaborative efforts among K-University, business, and community sectors. Greater accountability will serve to bring about program improvement to create a decentralized, high-performance, and learner-focused system of workforce preparation that guides students toward opportunities and resources through each juncture of their education, allowing them to thrive and prosper in the workplaces of the 21st century.

History of Workforce Preparation Education in California

K-12

The antecedents for California's workforce preparation programs can be found in the World War I time-period, when the federal Smith-Hughes Act provided funds to states for the underwriting of salaries for teachers and other staff involved in preparing students for vocations in industry, agriculture, and home economics. California's first major workforce program, vocational education, was established in 1917 through federal funding from the Carl Perkins Act. The program expanded in the 1920's –1950's with the establishment of polytechnic high schools and again, in 1968 in California, with the founding of Regional Occupational Centers and Programs (ROCPs).

Throughout the aforementioned period of expansion, the idea that there should be an educational program for students headed to college that is different from that for students going directly to the job market after high school dominated the organizational structure of high schools. That approach made sense in the context of the post-agrarian and prevailing industrial economy of the time, when only a small elite with solid liberal studies education was needed for the economy to prosper, and when workers seldom veered from one career over a lifetime. The advent of the information age, however, began to augur change in the educational system. Now, students are required to have more substantial knowledge, as well as more technical workplace skills, in the post-industrial economy.

The California Legislature first addressed this trend in 1981 by expanding the Peninsula Academy at Sequoia High School in Redwood City to a statewide Partnership Academies program focusing on computer and electronic training, as well as preparing students for both college and careers through an integrated curriculum. In 1985, prompted by the publication of the Carnegie report – *A Nation at Risk* – with its iconic imperative decrying the "rising tide of mediocrity" in the nation's schools, the Legislature more firmly established an emphasis on

academic and college preparatory programs with its passage of the Hart-Hughes Education Reform Act.

Though politically popular, this academic focus served to further the chasm between vocational education and the college preparatory programs that opened after the passage of the 1978 Proposition 13 Property Tax Reform Act, which shifted the K-12 funding mechanism from primarily one of local monies to one supported by the state and left vocational education, the 290 academies, 72 ROCPs, and various adult education efforts in K-12 and the California Community Colleges (CCCs) to compete over rapidly dwindling resources. Since 1980, nearly two-thirds of the state's vocational classes have been eliminated. California's economic decline in the early 1990's further compounded the divide, and this array of workforce-oriented efforts has never recovered as California's high school programs became more focused on college-bound students in response to the state's flurry of accountability legislation. The irony amid all this political fervor is that 60-70 percent of California's students do not seek higher education.

CCCs

The first community college (known as a junior college then) was established in Fresno in 1910. Within a decade, nearly 20 school districts were offering general education, vocational, and remedial coursework through junior colleges, and by 1960, there were 63 junior college campuses, which included adult education and community service courses. The 1960 Master Plan affirmed the diverse missions of the community colleges, but renewed emphasis on transfer education. Following the Master Plan for Higher Education Commission review in 1989, AB 1725, deemed transfer and vocational education training as the primary missions of the community colleges. Instruction in basic skills, English as a second language, community service, and adult education were identified as "essential and important functions".

Over the past decade, several federal statutes have required that CCCs strengthen the relationship between school and work by bringing together the academic and vocational parts of the educational system.[1] Economic development was codified as a mission of the community college system in AB 1497, 1991.

The vocational delivery system of the CCCs has been historically designed to meet the needs of entry, or transitional workers. A 2001 Center of Excellence report reveals that most courses are delivered in eighteen-week day or evening formats, rather than on weekends or intensive formats that might better support the educational needs of full-time employees. Workplace instruction is generally not available, and for the most part, students are not required to demonstrate knowledge and skill attainment through the use of portfolios or projects.

In 2001, the CCCs Board of Governors moved forward with the Ladders of Opportunity workforce initiative, which implements a system that combines classroom instruction and career development, and introduces workplace training on a lifelong basis in order to accommodate workers' needs to adapt to the volatile and evolving workplaces of the 21st century. It is a

[1] Carl D. Perkins Vocational and Applied Technology Amendments of 1990 (Perkins II); reauthorization of Perkins II in 1994; the School-to-Work Opportunities Act of 1994; and the Vocational and Technology Amendments of 1998 (VTEA).

paradigm that engages a wide range of students, from the non-English speaking worker, to the holder of a baccalaureate degree.

Universities

The California State University (CSU) system's first campus was begun as the California State Normal School (now San Jose State University) in 1862, and by 1920, there were seven normal schools. The Legislature abolished their local governing boards and reorganized them under the State Board of Education and the Superintendent of Public Instruction, renaming them teachers' colleges. In 1935, the Legislature again changed their names to state colleges and authorized expansion of their curriculum to the liberal arts and sciences and various technical fields, including agriculture. Over its years of expansion, CSU became involved in substantial research activities, in addition to its role for the training of teachers and other professionals.

The University of California was founded in the Organic Act of 1868 as a public trust governed by a Board of Regents, and it is a land grant institution. Over the years, research efforts of the system have created an untold number of new jobs, as well as new fields of work. University efforts range from significant breakthroughs in agriculture to advances in chemicals, pharmaceuticals, and biotechnology. For approximately 30 years, UC has been involved in the field of microelectronics, computer architecture, and computer design. It is world renown for work in gene splicing, cancer research, energy, and earthquake safety, among others.

Private Postsecondary and Vocational Institutions

Another segment of the vocational education providers are proprietary insitutions, which operate as postsdecondary institutions. These schools were originally governed within the Department of Education. Reform legislation in 1988 created the Council for Private Postsecondary and Vocational Education, which expired in 1997, and the schools were placed under a newly named agency, the Bureau of Private Postsecondary and Vocational Education. The several thousand private postsecondary and vocational institutions approved by the state through the Council for Private Postsecondary and Vocational Education provide a multitude of educational services, from vocational training to doctoral education, to approximately a half million students throughout the state. These schools do not receive annual state appropriations.

Introduction

"A booming economy is only as good as its next workforce."

Stephen Levy, Center for Continuing Study of the California Economy

It is that workforce -- and the next, and the next, and the next -- which a more expansive Master Plan must address, particularly as it echoes the stated principle of the Joint Committee to develop an educational system that prepares *all* students for success at the next level of education and/or for the world of work -- one not exclusive of the other, but at the choice of the student. It is a fundamental tenet of the Working Group that providing *all* students the opportunity to achieve their highest academic and skill potential will enable them to pursue greater economic prosperity over a lifetime, better serving them and society.

Though the founding Master Plan for Higher Education understood the importance of education and its relationship to the economy, it failed to recognize that the seeds of career preparation can be rooted in the earliest grades. The Group determined early on that the basic foundation of California's workforce should begin in a strong K-12 education system, where children are engaged in career awareness at the earliest ages and come to understand that what they are learning in school has relevance and usefulness to their future and lives outside of school. The system should strive to imbue students with the understanding that the basic skills and attitudes they develop in these early years are fundamental to their success, whether they enter the workforce immediately after graduation from high school or at later intervals through grade 13 and beyond in the state's public and private postsecondary education systems.

To build recommendations appropriate to the Joint Committee's charge and its vision and goals, it was necessary for the Group to first explore the nature of California's economy and how it is inextricably entwined with the state's education system.

California's Economy and its Workforce: The roller coaster nature of the modern day California economy, which was at the bottom of the track in the early 1990s (California suffered a net loss of more than a half million jobs between 1990 and 1993) and soared to its highest rail as the decade transitioned to a new century. As that century transitioned to a new millennium, the state economy began to drift downward again, demonstrating the need for a workforce as diversely skilled and flexible as any in the world, for California to retain its current position as the 5th largest global economy.

The nuances and vagaries of the economic structure aside, that status is already in some peril because of the shortage of skilled workers, for which there are several reasons. Many fields and occupations are beginning to lose workers to retirement. For example, more than half of the machinists in Southern California are reaching retirement age, and the "baby boom" generation is just around the corner (The Employment Policy Foundation's "American Workplace Report 2001" estimates more than 61 million workers, nationally, will retire over the next three decades). Sometimes, the state is simply "behind the curve". While machinists and many other occupations are rapidly requiring more sophisticated computer skills, California ranks 34th

nationally in providing computer instruction in our schools, even while firms in the state employ almost 30 percent of the national computer industry.

California's gross state product accounts for 12 percent of the total in the nation, and job creation is an important economic engine in the state. California's economy is highly dependent on the innovation and creativity of university research. It is no accident that Silicon Valley developed in close proximity to premier universities in the state, and indeed, the nation. The faculty and graduate students at those universities are creating the new knowledge that drives California's economy and ultimately the state's needs for a highly-trained and compensated workforce. The next "high tech" break-throughs that will keep California competitive may occur in disciplines that are not obvious today. More than ever, the jobs of tomorrow do not exist today; they will be created by innovative application of ideas.

The Education Factor: In California and across the nation, there is a shortage of science and math instructors in K-12, and nearly 5,000 California mathematics teachers have been judged to be under-prepared. Additionally, the California Department of Education data reveal that 11 percent of public school teachers were on emergency permits in 2000-01, a situation especially pronounced in low-performing schools, most often found in communities with high concentrations of low socioeconomic status (SES) students.[2]

The data are equally daunting in higher education, where the overall awarding of baccalaureate degrees in California lags behind other states and countries, and the awarding of baccalaureate degrees in key scientific and technical disciplines actually declined over the last decade, forcing more employers to hire from overseas. California ranks 44th among the states in the percentage of 19 to 24 year olds with a baccalaureate in some fields. [3]

As happened with the recent K-12 reform, further up the educational pipeline, universities are being encouraged by businesses to pay more attention to their students. According to a study of doctoral students from twenty-seven universities across the nation, professors are far more prepared to do research than to teach. In fact, doctoral programs typically train students to be research faculty even though fewer than half of forty thousand students who earn a doctorate each year actually get jobs at research universities. [4]

The Workplace of Today and the Future: Nearly half (45 percent) of California's projected job growth will occur in occupations requiring only short or moderate on-the-job training. Twenty percent of the jobs will be available to new workers with career technical training, a community college degree, or long-term on-the-job training; 16-20 percent will require a four-year degree; and 2 percent will require a graduate degree. The remaining 16 percent require significant work experience, and thus will not be available to first-time workers.[5]

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[2] CSU Teacher Education Annual Report, 1998 – 1999.
[3] Lynne G. Zucker & Michael R. Darby (October 2001). Crititcal Path Analysis of California's Science and Technology Education System: Universities and Colleges in California. California Council on Science and Technology.
[4] Chris M. Golde (January 2001). At Cross Purposes: What Experience of Doctoral Students Reveals About Doctoral Education. Pew Charitable Trust.
[5] Will Work Pay? Job Creation in the New California Economy (April 2000). The California Budget Project.

Recent stopgap measures, such as the H-1B visa program, as responses to the challenge of a rapidly changing workplace are less preferable than increasing the state's focus on long-term solutions through the upgrading of skills, academic achievement, and career preparation among all students in the state's education system -- a system that must shift to the provision of multiple entrances and exits over a lifetime to accommodate the "retooling" needs of a rapid and ever changing workplace, as well as the serial career patterns of contemporary and future generations. Career and job change is pervasive in California, with three years as the median tenure for workers in their current job. Forty-five percent of California workers have been with their current employers for less than two years. Compared with 35 percent nationally, only 21 percent of California workers have been with their current employer for more than ten years. [6]

The contemporary workplace confirms the old adage, that the only constant is change, but with a new twist -- the rapidity at which it occurs. Consider that in the 19th century, there was more technological change than in the prior nine centuries; the first 20 years of the 20th century saw more change than all of the 19th century; the world wide web did not even exist a little more than a decade ago, and never did its founders envision it would spawn the rise and fall of an entire dot com industry at the turn of the 21st century! It took radio thirty years to reach an audience of 50 million; television, fifteen years; and the Web, five! The paradigm shift rate is currently doubling every decade, so the 21st century will see almost a thousand times greater technological change than the prior century. [7]

The implications for the workplace are enormous, as technology has also transformed its operations. The economic decline in the early 1990s forced downsizing among many companies. Even with the upswing of the state's economy, this phenomenon has continued. It is known as "unbundling", where companies unwind their large centralized corporate structures of the past and maximize their flexibility and speed to readily adapt to market changes. Businesses also began to forgo traditionally structured workforces in favor of informal networks of subcontractors. There was a concomitant trend among workers, where the more youthful segment of the workforce operated as "free agents", some by choice and some by workforce circumstances, such as was wrought by the precipitous decline in the "dot com" industry. Together, these phenomena demand that the education segments mobilize to more concertedly address career preparation appropriate to their levels, as well as to increase academic achievement and skill acquisition of students or possibly face decreasing relevance in workforce preparation. The corporate e-learning market, the fastest growing segment, is estimated at $11.5 billion. The University of Phoenix now enrolls 50,000 students in over sixty-five centers nationally. Granted, these private sector efforts are not bound by the retention and completion rates demanded of public institutions, but they portend change in the public education system. In the same way that California businesses had to adapt to survive the more aggressive marketplace, so too must education adapt to meet the workforce needs of the rapidly changing labor market.

[6] Chris Benner, Bob Brownstein, and Amy B. Dean (2000). Walking the Lifelong Tightrope: Negotiating Working in the New Economy. Working Partnerships USA and Economic Policy Institute.
[7] Ray Kurzweil (2001). Thoughts on Where Technology is taking Us.

Characteristics of the California Workforce:

California's fast-paced economy and workplace requires a constant upgrading of skills, which results in higher wages for employees. Education can be the major key to economic success for the individual as well as the state. The median college graduate in California made almost $43,000 in 1999, while the salary of those who do not graduate from high school generally hovers around $10,000 or less. [8] The wage gap between high school dropouts and high school graduates has become larger in California -- 29 percent compared to 25 percent in the rest of the country. The earning data supports the idea that demand for college graduates has increased due to increased skill demands, hence the increase in pay. Recent data indicate that California has lost ground in the share of the population holding a high school diploma or with 13-15 years of schooling. For example, in 1970, California had 10.1 percent fewer dropouts in its population than did the rest of the country. By 1997, California's dropout rate was 5 percent higher than the national average. During that same time period, there was also a 6.5 percentage point drop in the relative share of the adult population holding some college education below a four-year degree. Industry by industry, California's college-educated workforce comes from the national market, but high school graduates and below enter the state's workforce from the statewide population. [9]

The marked difference in earnings by educational attainment is problematic because of the economic impact on the least advantaged in the populace. The construction of a more seamless education system can positively impact the economic well-being of the citizenry. High school academic preparation has a high correlation to first-generation students' likelihood of enrolling and remaining enrolled in postsecondary education -- the more rigorous their high school curriculum, the more likely students are to persist along the education continuum to a degree.[10] For example, the framers of California's Master Plan for Higher Education recognized that educational quality and opportunity to learn varied significantly throughout the state and prompted creation of a set of community colleges to provide college access to Californians who had the desire and could benefit from education beyond high school. The opportunity to obtain the skills and academic achievement not obtained in K-12, is embedded in the varied goals and missions of the California Community Colleges (CCCs) and is a critical factor in the path to greater economic prosperity for many Californians, particularly for Latinos, the largest group of immigrants in the state.[11]

Workforce Needs as a Priority for the State:

While the state's education system meets the needs of many California employers, there are deficiencies in the quality and quantity of the workforce in some industries and occupations. Education clearly has a central, basic purpose in developing responsible citizens and members of society, but it also has a critical role in preparing people to be productive members of the

[8] Stephen Levy (2001). Shared Prosperity and the California Economy. Center for Continuing Study of the California Economy.
[9] Julian R. Betts (2000). The Changing Role of Education in the California Labor Market. Public Policy Institute of California
[10] Edward C. Warburtun, Rosio Bugarin, Anne-Marie Nunez (2001). MPR Associates, Inc. and National Center for Education Statistics
[11] Patricia L. de Cos, (2000). Raising the Socio-Economic Status of Latinos in California: The Role of the California Community Colleges. California Research Bureau.

workforce and to stimulate its own economy. The current education system is primarily designed to give people basic education early in life and thus provide them access to entry-level positions. It is poorly suited to providing all people with the access to affordable life-long learning and continuing education opportunities, which will enhance their employment skills throughout their work life.

Except for various university extension programs and some community college contract training initiatives, public educational institutions are not structured to help workers adjust to rapid changes in the economy. It is critical for the Master Plan to guide the education institutions toward development of approaches which recognize the rapidly changing and more diverse skill demands of the workplace. These programs should aim for greater ease of student transition into work and offer specific skill preparation, such as computer literacy and information technology to reduce the digital divide through high quality training and education programs that prepare workers for direct entry into the workforce. When these programs are offered in public high schools and colleges, it is important for the facilities to remain open in the evenings to accommodate schedules of working students. These facilities, and quite possibly, new institutions, should be targeted to communities with low rates of completion and unemployment.

This Report

"No problem can be solved with the same consciousness that created it."

Albert Einstein

The power of the original California Master Plan was its ability to frame the state's educational promises to its citizens and the will to deliver on those promises. This report provides the Joint Committee with a more expansive framework for extending the reach and the promise of the 1960 Master Plan by moving the state's schools, colleges, and universities toward a more cohesive, learner-focused system through greater emphasis on career/workforce preparation across all levels of California's educational system.

In its first meeting, the Working Group contemplated the two main principles envisioned in the Joint Committee's Framework to Develop a Master Plan. The magnitude of the first, "focus on *all* students", became immediately evident when considering that, at the beginning of the 20th century, fewer than 17 percent of 17-year-olds even held a diploma from high school, much less a college degree. The second principle, "focus on the best interests of the students", was recognized as a powerful mechanism for restoring student achievement as the centerpiece of California's education mission.

As an initial strategic step toward envisioning what a future system might look like, the membership generally agreed on the following precepts for effective programs in workforce preparation, presented by Dr. Norton Grubb, David Gardner Chair in Higher Education, UC Berkeley.

5 Precepts

Effective career or workforce preparation programs would:

1. **Target jobs with relatively high earnings, strong employment growth, and opportunities for individual advancement.**
2. **Contain an appropriate mix of academic (or including basic or remedial) education, occupational skills, and work-based learning. The intensity of both academic and vocational education is appropriate to the jobs, and effective programs pay attention to the pedagogy of everything they teach.**
3. **Provide appropriate supportive services.**
4. **Provide their students with pathways or "ladders" of further education opportunities.**
5. **Collect appropriate information about results and use these to improve their quality.**

The Group then agreed on three broad topical areas -- academic focus, alignment, and accountability -- as parameters for mapping out the following recommendations to move the state toward the development of a more coherent system of workforce preparation throughout the segments of public education in California. Sections on these three topics are followed by a fourth section on resources, which, while not a structural element, permeated all the discussions at some level, and a fifth section, which addresses proprietary institutions in the state.

1.0 ACADEMIC INTEGRATION

"The school system is an organ of the body politic, bone of its bone, flesh of its flesh, an organ devised for each and all, from generation to generation. Its structure must therefore be shaped so that, as time goes on, more and more adequate recognition may be given to the educational rights of both the minority and the majority of child-citizens -- that, in other words, provision may be made, not only for the length and continuity, but also for the breadth and completeness, of educational opportunities."

John Aubrey Douglass : The California Idea and American Higher Education

At the beginning of the last century, close to 70 percent of seniors graduated from high school and went on to postsecondary education soon after. Today, researchers estimate that as many as half of high school seniors leave school without the skills they need to succeed in education or the world of work. A 2001 Sacramento Bee article takes this situation to the next level. when it states: "the ranks of the working poor are also expanding and California is evolving, minute by minute, into a two-tiered society. Much ballyhooed shortages of software engineers and others in high-pay, high-skill fields are matched by a strong growth in low-pay, low-skill service industry jobs."

Recent National Assessment of Educational Progress (NAEP) science test results, that revealed California students to be last among students in 40 states evaluated, illustrate the significant gap to be overcome in present student achievement levels. The business sector confirmed that too many applicants, including graduates, lack the skills necessary for successful employment across

many levels of the workforce, and industry reports that it needs well-prepared, skilled workers to fill an increasing number of vacancies in a number of occupations.[12] In California, the Economic Strategy Panel's 1996 report, Collaborating to Compete in the New Economy: An Economic Strategy for California, found that employers' most important expectation of government was not regulatory change, tax reform, or infrastructure development, but a better qualified workforce.

A 2000 report from the Employment Policy Forum indicates that as many as 70 percent of students entering the workforce do not have simple writing skills. Even though math proficiency is a major indicator of economic success (Rose and Betts/2001), the most recent NAEP for 8th grade math skills revealed that over 80 percent of black students, approximately 70 percent of Hispanic students, 42 percent of Asian students, and 37 percent of white students in California scored "below basic" -- the lowest category.

Concern that California's low-performance in state and national testing is occurring during a period in which students are required to have more substantial knowledge, as well as more technical workplace skills in the post-industrial economy, additionally prompted strong agreement among the group, on the need for greater integration of academics into workforce preparation programs. Education, being the most amenable among socioeconomic indicators to policymaking, provides the Master Plan with a prime opportunity to have impact on the earnings gap for a majority of the state's students, and thus, the state's future economic vitality.

Recommendations:

1.1 Integrate academics and career preparation throughout K-16.

Rationale: Most jobs will require a greater command of academic skills and how they are applied to solve real world problems in the 21st century workplace. In recognition of this, members agreed that the potential for teaching and learning can be significantly enhanced through the blend of theory and application -- contextual teaching/learning. This strategy means involving K-16 students in hands-on, applied activities, similar to those that postsecondary students gain in graduate clinical training programs. It can be a unit of math instruction that applies the math skills learned in the classroom to a specific career technical problem, such as designing and building a model roof or simulating voting behavior on computers. As it relates to career preparation, a study of the differing personalities of the characters in Beowulf can be instructive regarding management styles encountered in the workplace, as can the study of Canterbury Tales inform students on the management of disagreements.

Career preparation can be further integrated into curricula by more directly involving the business community. Business members expressed the belief that neither the public schools nor the teacher training institutions have enough exposure to business, industry, or the professions, and education should recognize the inherent potential of the community and businesses as places for student learning. The issue for teacher education programs and professional development is whether, through classroom and clinical training, prospective and current teachers are enabled to

[12] The National Alliance of Business reports that a 1998 survey of 430 CEO's of product and service companies, identified in the media as the fastest growing U.S. business over the last five years, found that 69% of them reported the shortage of skilled, trained workers as a barrier to growth, up to 10% from the year before.

use a hands-on, contextualized learning approach in teaching K-16 students in both career and academic fields.

This approach has proved to be most beneficial for students in the third and lower quartiles of achievement, and it also builds workforce understanding for the college-bound students, when embedded in public and community service and workforce internships.[13] It was suggested, throughout several rounds of discussion, that "harmonizing" theory and application for students at all levels had the potential to reduce the practice of tracking in the education system.

Members generally acknowledged this Master Plan must contemplate the workforce of the future, where learned specific vocational skills of past economies may not be transferable to other entry level skills required of future jobs. Additionally, entry level skills, though valuable for initial entry into the workforce, are increasingly insufficient in preparing students for adaptation to changing workforce requirements for continued employment or for entry into many new jobs being created from the advancements of science and technology. If California is to sustain its competitive advantage in the emerging global, technology-based economy, it must continue to field a workforce capable of developing and applying scientific and technical innovations.

Overcoming the historical separation between theory and application can be a tool for program improvement across the full spectrum of students. It cannot be too strongly emphasized that such an approach increases the need for staff expertise in developing many curriculum areas which incorporate critical thinking skills with the technical knowledge, problem solving, teamwork, and communications skills associated with the modern, high-performance workplace.

Sending a strong signal to students that academic achievement is important to successful transition to employment not only addresses the demands of business and industry, it also stands as a major precondition identified as necessary for effective school reform;[14] therefore, the work of the Group can have significant impact on the achievement gap, documented by the Achievement Council and The Education Trust, entities which focus on developing effective means for improving educational outcomes for all students, particularly those from low-income and under-represented groups.

1.2 Extend School-to-Career (STC) concept across K-University

Rationale: Through the Working Group's continued deliberations on the concept of "structure", as it pertains to a Master Plan for Education, a new paradigm envisioning the upgrade of academic and workforce skills across the full spectrum of students emerged -- one which reflects the fundamental position that all students deserve and should receive the richest form of education, career, and life preparation. For advancement in the workplace of the future, business

[13] Laurel Adler (2002). School to Career Activities and Academic Achievement. East San Gabriel Partnership
[14] Paul Barton (2002). Facing the Hard Facts in Education Reform: Weak Signals That Academic Achievement is Important. Educational Testing Service.

and industry basically agree that postsecondary education will be required, and "one of the key attributes of the knowledge economy is that work and college require the same kind of skills."[15]

It was eminently clear, from various studies and testimony before the Working Group, that too many students spend too many years drifting in and out of postsecondary education and/or low-end jobs, because they have been ill-prepared. The Group determined that the best course of action would be to transition from the historical implementation of workforce preparation programs in the state toward a systemic career technical model, which supports the acquisition of academic skills and implements age-appropriate career awareness earlier in the system, guiding the student toward the multiple opportunities available throughout the workplace and postsecondary education segments. Ideally, such a model would address the current gaps and transform current programs into a more coherent continuum addressing academic and workforce competencies.

There should be a system of seamless programs, starting in grade school and continuing through college, that focus on building necessary core academic skills and relating them to careers and the everyday world of work. The hallmarks of the new paradigm would be:

- age-appropriate career awareness strategies across K-16 education
- more wide-spread use of contextualized teaching/learning
- acquisition of workplace skills, which are not addressed in general testing materials (often the drivers of actual classroom curricula), such as the High School Exit Exam

At its best, the model would connect what students learn in their academic subjects with the knowledge and skills they acquire from career-oriented studies and on-the-job experiences in school-related internships or apprenticeships.[16] Greater focus would be placed on both academic achievement and workforce competencies, with the specific intent to potentially invigorate academic curricula and integrate academics with career technical programs.

1.3 Increase resources for career guidance and assistance to students.

Rationale: The current education system allows too many students to fall through the cracks, without the jobs or basic skills for successful transfer. Currently, retirements of skilled workers in such occupations as public safety, carpentry, nursing, accounting, and other trades and professions exceed the number of young people entering these fields. Many jobs and positions are unfilled, due in part to the inadequate system of career guidance and advisement in public schools.

In urban areas, the dropouts, which are as high as 60 percent in urban areas of the state, push-outs (those students leaving as a result of increased content standards and implementation of the

[15] Hilary Pennington (2002). Better and Faster, Excellence Advancement in School and Work. Aspen Constitutional Congress.

[16] Students who complete programs in career technical programs have an opportunity to become apprentices immediately, earning starting pay of $17.40 per hour, with the potential to move to journeymen status and earn $30 per hour.

High School Exit Exam), and future community college dropouts comprise approximately 90 percent of the high school-leaving population. They have poor academic skills, few job skills, and many end up in jail in disproportionate numbers, instead of in gainful employment. While implementing stronger accountability mechanisms, the K-12 system must also embed in its programs planning for students who are not proficient at abstract learning but do well at manual tasks, while simultaneously expanding their academic proficiencies and consequently, their future career options**.**

The state must recognize, that, in spite of the political rhetoric and emphasis on college preparation,[17]a majority of youth in California do not graduate from four-year institutions. Business members further cautioned that, while high achievement for all is a worthy goal, expecting all students to achieve high levels of an approach to systemic structuring creates a profoundly unstable system over the long term. As in the past two decades, the estimated workforce need for baccalaureate degrees in the next twenty years is continuing to hover around 20 percent of the workforce. Additionally, representatives from the High School Development Division in the Department of Education testified that third-party skills certification, such as by Cisco and Microsoft, is reducing the primacy of a college degree of obtaining high paying jobs and therefore, altering the college-going decisions of many students. Many have discovered that having a degree in the 21st century is not necessarily the only ticket to a high-paying job. Technical skills, academic knowledge, workplace competencies -- these combined can provide a high level of success in the workplace.

As discussions of the Working Group evolved, the model began to be envisioned as a continuum -- one that must address a wide strata of student aspirations and programs across the segments. The increasing rate of change in the workplace demands that a student-centered education system must focus on providing learning for a lifetime by systematically including opportunities for multiple exit and entrance points in the system. Current distinctions among levels in the education system will become increasingly blurred, and career guidance will need to address a future economy in which there will be more self-employed, self-directed participants. In addition to improving career guidance, career and workforce preparation programs can assist students in their adaptation to the world of work by developing simulations of the workplace through the development of school-based enterprises, providing students with opportunities to run businesses.

The fact that any attention was given to career planning in California's school system was only a recent phenomenon, sparked by the implementation of the federally-seeded venture capital School-To-Career model. However, federal funds have greatly diminished, and any chance of a timely backfill from state General Funds has been obliterated by the decline in the state

[17] The 1960's and the Civil Rights Movement brought to the nation's attention that the highest percentage of students in college preparation classes were white, with minorities disproportionately assigned to the vocational track, and ultimately unable to qualify for the higher paying jobs requiring a college degree. Two educational goals quickly become "equal access" and "no tracking," which is transformed into the notion that all students must take a college prep curriculum in high school.

Despite an emphasis on "at-risk" students for the last 40 years, there is still a significant gap between different groups in the numbers of students who receive high school diplomas and college degrees. For the non college bound, there has been an insufficient offering of concentrated workforce preparation programs in high schools.

economy.[18] In the meanwhile, the Joint Committee should consider construction of a model plan, particularly as the state's general and student population become increasingly more diverse in ethnicity, as well as parental educational achievement, the latter being a significant predictor of student performance. Research suggests education attainment plays a significant role in ethnic differences in employment and earnings and continuing racial and ethnic gaps in well-being for the next generation. [19] Members agreed the existing disadvantages can be greatly abated by more systematic and systemic planning throughout K-16. Because it is a known fact that first-generation students are *less* likely to complete advanced mathematics classes in high school, an obvious response of the system should be to provide more guidance and demonstration for all students regarding the linkage of math and other important skills to their advancement in the workforce and/or postsecondary training. Many California students seem to have been unaware of the opportunities that could be available to them in the state's high tech economy by the study of science, mathematics and engineering. A recent Joint Venture: Silicon Valley Network report showed that Silicon Valley Hispanic students were not apprised of employment options, literally just beyond their doorstep. This displays the critical need for education-business partnerships, like that of Joint Venture, in fully linking a career/workforce system to the actual workplace.

Two major junctures are paramount for consideration by the Joint Committee, in order to impact students' achievement and career preparation during "first chance programs": pre ninth grade counseling and the tenth grade counseling program. The Education Commission of the States' report, *P16 - Preschool Through Postsecondary,* suggests that all students before grade 9 should have an individual plan of study in order to complete high school prepared for successful entry into college and/or the workplace.

1.4 Expand recruitment for counselors and workforce teachers.

Rationale: California is currently experiencing a critical shortage of counselors. Its ratio of approximately 979:1 counselors to K-12 students is the highest in the nation (the national average is 513:1).[20] Twenty-nine percent of K-12 districts in the state have no counseling program, and among those districts with programs, student access to counseling varies considerably, according to district organization and grade level.

Student to Counselor Ratios in California

District	County	Ratio
Owens Valley Unified	Inyo	133:2
Woodside Elementary USD	San Mateo	458:2
Oakland USD	Alameda	700 : 5
Beverly Hills USD	Los Angeles	5,317:12
Huntington Beach Union High	Orange	14,359 : 1
San Francisco USD	San Franciso	59,979:115

Members strongly believe counselors should be better versed in both the career steps from high school to college and the workplace, but the main focus of the Joint Committee, in this matter, should

[18] AB 1873/School To Career
[19] Jennifer Cheng (2001). At Home in School: Racial and Ethnic Gaps in Educational Preparedness. Public Policy Institute of California.
[20] CDE/It will take an additional 1,123 more counselors per year to reach the national average by 2005.

be lowering counselor to student ratios and targeting recruitment to particularly high demand areas.

There is also a major shortage of workforce instructors and career counselors throughout the K-14 system. Many career technical teachers are retiring, and there is widespread closing of these classes statewide.

While private sector competition is a factor, since salaries within the respective industries are much higher and mitigate against trained professionals selecting employment in the education sector, the bureaucracy of districts also plays a role when qualified candidates, including retired industry individuals, often cannot gain sufficient credit for industry experience on salary schedules in the K-14 system to make educational employment financially attractive. [21]

1.5 Improve Professional Development for Counselors and Teachers

Rationale: Teaching strategies, such as contextualized approaches, and career guidance are largely unaddressed in current programs for teacher and counselor candidates or professional development. Well-trained teachers are a national priority for the business community, as it has called for "rigorous periodic, public, and independent appraisals of the quality of teacher education programs." [22] Even though the recent 2002-03 budget analysis by the Legislative Analyst's Office addresses the structure of teacher training programs, it does not delve into the value of the programs in relation to how well they address the full range of student learning needs in the state. Its emphasis is more on increasing the number of teachers and counselors and less on improving the quality of instruction and career guidance.

Counselor Training - The National Association of Counselors, in its national standards document, has clearly embraced career guidance as one of its objectives, but very little attention has been paid to it throughout state credentialing systems. In California, the complexities of the diverse student population, heavy caseloads, and recent focus on A-G courses have overwhelmed an already short-staffed counseling system, leaving little, if any emphasis on workforce preparation guidance.

Teacher Preparation - Career technical instructors frequently come to the field of education with an extensive background in a career area; however, many have only minimal teaching experience or preparation. At the same time, there is little training in contextual teaching strategies for general education teachers during their candidate years in schools of education. Though over the last three years, eleven intersegmental collaboratives have delivered professional development in contextualized strategies to their schools of education, the new model must move beyond only voluntary efforts if the quality of teaching throughout the full curricula in K-16 is to be significantly improved. [23]

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[21] The Designated Subjects Credential is designed for persons coming from industry without formal degrees or credentials and is currently under review by the Commission on Teacher Credentialing and the California Department of Education.

[22] Increasing of Role of the Business and Higher Education Communities in Preparing Our Nation's Teachers: A Business-Higher Education Forum Initiative (2001). The National Business Alliance.

[23] The STC Interagency Partnership is currently funding the Intersegmental Faculty Articulation Projects in Contextual Learning (ISFA). ISFA funds 6 pilot projects statewide which encourage articulation between the

Professional Development - The implementation of the Beginning Teacher Support and Assessment (BTSA) has had unintended consequences, since BTSA focuses primarily on practice teaching in academic settings rather than exposure to workforce considerations in teaching strategies, consequently diminishing the potential for widespread adaptation of contextual teaching strategies through site-based training programs.

The members agreed it is imperative for the state to address both ends of the teacher preparation stratum -- teacher candidacy and ongoing professional development Building on the existing workforce preparation collaboratives and developing a plan for statewide expansion seems the most immediate and effective response to the unmet needs in the state's diverse student population and would further legitimize this evolving field of inquiry. Such a structure should contemplate greater crossover of businesspersons and professors/educators to further the goal of preparing students for higher levels of workplace competency and success. Rather than instituting another statewide mandate to be resisted, this approach would serve to engage a significant degree of much needed cross-communication, combining university research and evaluation with site-base implementation at county, district and school site levels and ideally, within the recently-instituted teacher training partnerships in the community colleges.

Whatever form the training takes, it is critical to engage business in the process. The workplace for educators has historically been a "solo" endeavor, while the business world relies on a team effort. Dialogue within the Working Group more greatly revealed the divide between the differing cultures of business and education. Business members recognized the many challenges educators face, but noted there are times business find it difficult to make a meaningful contribution. Too often, the business community finds the education community primarily interested in the monetary contributions business provides rather than the many and varied non-monetary form of assistance it can provide, such as equipment, expertise, internships for teachers and students, technical advice, guest lecturers, advice on challenges and opportunities which businesses face, feedback on the effectiveness of educational practices, and assistance with project-based learning using industry based situations. Unfortunately, there are challenges for all but the most dedicated companies to provide such resources. Often having to surmount their own internal organizational issues, they are then challenged by what is perceived as a "closed door mentality" in the education community. Simultaneously, as teachers serve in their roles as public servants, businesses recognize they must be cautious to not withdraw from a collaborative effort at the first sign of discomfort with the process or outcomes. It is important for the Joint Committee to build on professional development programs, such as teacher externships (business-oriented placements for educators) and other activities which have successfully served to bridge the cultural differences between industry and education.

2.0 ALIGNMENT

"*Good programs are not going to evolve by simply redefining (redrafting) what we're already doing, maintaining horizontal and vertical barriers between isolated sectors of the*

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educational segments and provide “best practices” for K-18 admissions and articulation activity, with the goal of improving transitions between K-12, postsecondary education and the California workforce. The projects end in 2002 and could serve as a model for regional collaboration.

educational process, and hoping that the American employers will be satisfied with what educators think is best for the students and the new labels that are applied to them. A new synergism must be developed at the local and state levels -- to make significant and appropriate changes in curriculum, cooperation, and coordination."

Dan Hull, *A Win-Win Experience*

The Group discovered that the lament of numerous reports utilized by the Master Plan Commission of 1987 still rings true almost two decades later. It is best captured in a 1983 Assembly Office of Research report, *Training Tomorrow's Workers,* which says*: "*California's employment preparation programs and activities are isolated efforts that suffer from duplication and a lack of coordination". Still today, the state has a collection of programs in statewide job training with a fragile, if any, connection to the education system, which, itself, is a bevy of programs that simply evolved over time through accretion, not systemic planning.

Workforce Preparation Programs in California

Vocational and Adult Education

Department	Program
Community Colleges	Post-Secondary Vocational Education Economic Development Program Partnership for Excellence (Vocational Component)
Education	Secondary Vocational Education Adult Education (Vocational Component) Agriculture Vocational Education Partnership Academics Regional Occupational Programs & Centers Workforce Investment Act Match - Vocational Ed. Perkins Vocational Training And Education Act
Secretary of Education	School to Career

Members reviewed and discussed the ECS *P16 report,* which states: "As long as governance, funding, and the policies affecting K-12 schools, two- and four-year colleges and universities remain unconnected to each other, there is little chance that the three sectors will cooperate to provide all students in grades 11-14 the education they need. New policies, funding formulas and possibly *new structures that are designed with student education needs at the core* are required." Even though myriad such studies and reports document how each segment of an education system is reliant on the others, testimony before the Group revealed the low degree to which the education segments work together to assist student transition to the workforce. In K-14, this manifests most prominently by the lack of articulation of programs. The Department of Education reported that schools with meaningful workforce preparation programs have standards-based and articulated curriculum across grades and segments.

Workforce Preparation Programs in California

Core Employment Services and Economic Development

Department	Program
Employment Development	Mainstream Job Service
Employment Training Panel	Training and Economic Development Program
Industrial Relations **Community Colleges**	Apprenticeship Training
Education	Apprenticeship Program

While federal regulations regarding funding have unintentionally inhibited systemic alignment and coordination efforts, such as articulation, but a lack of will among segments looms significantly in this matter. Dale Parnell, author of *The Neglected Majority,* reflects this kind of institutional stasis best, when he states: "…articulation, as an attitude, is exemplified by the willingness of educators in all sectors to work together to transcend

the individual and institutional self-interest that impedes the maximum development of the student. "While exemplary practices of intersegmental cooperation do exist in pockets across the state, including the IMPAC projects, meetings of articulation officers, compacts and agreements between community colleges and UC and CSU, a recent agreement by the CCCs regarding credit for high school work, and other endeavors, the Group agreed that more systematic planning is necessary to include all levels of education and link them to other critical players.

Several educators proposed the creation of a statewide institute to examine, plan, and provide direction for aligning education segments, while business members unanimously preferred a regional approach because the labor market system generally expresses as regional phenomena, and they believed there would be an increased potential for enhancing much-needed communication between education segments, and the state job training system and linkage of both to the labor market through collaborative efforts. Educators objected, citing negative experiences with the federal Workforce Investment Act, which focused on regions in its implementation.

Workforce Preparation Programs in California

Employment Services for Special Populations

Department	Program
Aging	Senior Community Service Employment
Community Services and Development	Community Services
Employment Development	Special Veterans Services Trade Adjustment Act and North American Free Trade Agreement Training Programs Workforce Investment Act Wagner Peyser Grant Special Projects Federal Welfare -to-Work Grant Faith-Based Initiative
Social Services	Food Stamp Employment and Training CalWORKS Employment Services Refugee Assistance Services
Conservation Corps	Training and Work Program
Youth Authority	Job Placement Services
Corrections	Preventing Parolee Crime (Job Training Component)
Rehabilitation	One-Stop Career Vocational Rehabilitation Services
Transportation	Maintenance Program Youth Job Skills Program On-the-Job Supportive Services

Members struggled between these options, and ultimately, because of almost unanimous agreement that, in the current approach to workforce preparation programs, information is not flowing and accountability is not functioning, the group cohered around the creation of a network of shared responsibility to alleviate the disjointed practices of the past. Educational providers would have responsibility for ensuring that the academic content at each level prepares all students for success at the next educational level, and business would focus on providing access to workplaces and engage with educators in mutual strategic planning to ensure student acquisition of the skill sets required of workers in the future. Educators and business will share responsibility for modifying professional development activities to ensure that educators have rich understandings of how knowledge is applied in work settings.

Of strategic importance are entities, such as the STC partnerships, which have been highly instructive regarding the need for some form of intermediary staff, such as

Workforce Preparation Programs in California

Continuing Education

Department	Program
California State University	Extension Programs
University of California	Extension Programs

trade associations and other alliances committed to school-business partnerships in current efforts of this nature across the state. The business community contends there needs to be a more robust linkage between what "the markets are saying" and what is being offered, especially in postsecondary education. The network model offers a mechanism for more formally implementing this kind of ongoing dialogue between business/industry and education and strategically planning to eventually encompass all the workforce preparation and delivery systems in the state's education system and link them to the labor market.

Recommendations:

2.1 The state should establish broad-based roles and responsibilities for a statewide system of career/workforce preparation programs in education, as follows:

Elementary schools shall be responsible for introducing career awareness to students.

Middle schools shall be responsible for initiating career exploration to students.

Secondary schools shall be responsible for providing school-to-career and employment preparation opportunities to students through programs offered at school and business sites.

- ROCPs shall be responsible for offering career and technical education opportunities which include employment and postsecondary education/training for high school students and skilled employment-training programs for adults.
- Adult education programs shall be responsible for meeting workforce-training needs by providing academic and short-term career technical programs leading to enhanced employability. The academic programs shall be those leading to the high school diploma or the GED, inclusive of English language acquisition.

Community colleges shall be responsible for providing expanded employment training programs in conjunction with specialized courses, career certificates, and the AA degree for adults. The training may be offereed in high schools and ROCPs and/or articulated programs leading to four-year college degrees.

State-approved Private Postsecondary Institutions, Continuing Education, University Extension, Employer-provided training, and non education entities, such as WIA Board Community Partners, shall provide employment training programs leading to specific jobs and that are responsive to industry requirements for professional development and license renewal.

Public and private colleges and universities shall jointly be responsible for preparing associate, baccalaureate, and advanced degree graduates for productive roles as problem solvers, innovators, and leaders. All three public postsecondary systems should give prominent consideration to the state's changing economic needs and to emerging workforce opportunities for graduates, as factors in academic and strategic planning.

Rationale: The prior Master Plan for Higher Education had established roles and responsibilities for the public segments of education, and while this report envisions workforce

preparation as inclusive of the entire system, members outlined roles and responsibilities at the broadest levels.

2.2 The alignment of career technical programs should be broad in scope.

Rationale: The fundamental goal for establishing this Master Plan is to create a more coherent system of education through the linking of K-12 programs and services to those offered at postsecondary levels. For this Working Group, the issue of alignment of workforce programs across the education segments and their linkage to the state's training programs is central to that goal. To more strategically address the gaps in career/work preparation for all students, as well as the future workforce needs of California, it is imperative that the state overcome the isolation of career technical programs within the segments of education and minimize the education system's distance from the state's job training programs. Members agreed that each system must first be more closely aligned within itself and then, each to the other. Ultimately, both should be more strategically linked to the labor market.

2.3 The structure of a career/workforce preparation system should reflect a tightly - coupled network model, characterized by relatively autonomous nodes of education/training providers, intermediary industry, trade, and professional organizations; strategic connections to the labor force; and a high level of communication among network members.

Rationale: A network model is desirable because the most important characteristic of successful networks is a shared vision, thus providing the state with a profound opportunity to transform the current system to one that is authentically student-centered and broad-based.

Through the strategic planning of a network approach, institutions would move incrementally toward more autonomy as performance and accountability measures are instituted and state regulations are diminished, accordingly. Strategic partnerships with business would be encouraged throughout the state and serve to inform curricula as well as training and professional development. Learning would occur in diverse ways and settings, and increased flexibility would allow assessing and accommodating changes in what learning is needed. There would be greater integration of institutional staff and business partners and learning between schools, colleges, universities, and work place settings.

3.0 ACCOUNTABILITY

"*California must move from a process-based approach to a results-based approach, by focusing on the quality of outcomes and continuous improvement of the processes which produce those outcomes, not just on the quantity of service provided or on compliance with the rules."*

California Workforce Development: A Policy Framework for Economic Growth

Accountability, the "coin of the realm" in K-12 for almost two decades, is now focusing on higher education at a larger scale. An ECS poll of the nation's governors revealed almost all of the 35 governors responding said they believed colleges (and universities) should be more accountable for meeting local state and regional needs and that it is important for states to link spending on colleges to the institutions' performance. The governors also want to place more emphasis on faculty productivity, to give students incentives to pursue particular careers, and to reorganize the sectors of education into a seamless system covering kindergarten through college.

In the 21st century global economy, California should have a firmer grasp on student progression through the educational system and into the workplace than it does. Data should be available to permit analysis of student achievement as well as institutional performance throughout K-16, as it is critical to maximize the opportunity for program improvement within each segment over time. Public accountability for performance is a powerful tool for shaping institutional behavior. Programs which claim to have an impact on students' success in the labor market should be held accountable, to some degree, for the labor market success of their students and for providing evidence of the extent to which this claim is accurate. Data on labor market performance will drive enrollments and hence resources to the most successful programs and postsecondary institutions. The Legislature should make accountability for outcomes highly visible and public.

A collaborative effort of the California Department of Education, the California Trade and Commerce Agency, the California Health and Human Services Agency, and the California Community Colleges has expended considerable time identifying the following steps to "accelerate the development of more effective program and system accountability". That joint planning is of paramount importance to this discussion, because it represents agreement within the most comprehensive engagement of agencies involved in statewide workforce preparation and training. The following conclusions of the collaboration should not go unheeded. They are:

- **The California Workforce Investment Board and the education governing bodies should adopt policies that support the full implementation of the "report card system" required by SB 645/Johnston/1996, which established a common reporting system.**
- **The state partnership should continue its commitment to use existing information systems as the basis for the data needed to support performance-based accountability.**
- **The state partnership should continue to address information systems and data sharing issues raised by federal and state confidentiality laws.**

Recommendations:

3.1 The state should expand the current workforce report card to include K-University programs.

Rationale: Performance measures, such as employment rate, retention, and earnings, currently exist in publicly-funded workforce preparation programs as part of California's performance-based accountability system. Linking postsecondary education to the existing Workforce Investment Act Accountability Report Card (for agencies) would provide great potential for

reducing the current multiple measures of accountability within postsecondary workforce programs into a single system of commonly defined indicators. In time, K-12 should be incorporated into such an effort. The ability to document student achievement in acquiring appropriate workforce skills, to make both quantitative and qualitative evaluations of program effectiveness, and *to identify which programs result in higher earnings and job placement* for all students are fundamental goals for linkage of K-12 to statewide workforce preparation programs.

3.2 The state should expand its student data collection system and link it to postsecondary institutions and the Employment Development Department (EDD).

Rationale: Too many students have been shortchanged as they journey through the general education program because of poor accountability processes, and they should not again be subjected to a lack of accountability in subsequent sojourns through workforce preparation programs offered by any of the providers. In order to implement accountability *specific* to workforce preparation programs in K-12, the state must follow student progress by such indicators as salary and placement. The major obstacle in the K-12 system is that while the military, EDD, and the workplace use social security numbers for identification, the K-12 California Student Information System (CSIS) uses a "student identifier"; therefore, the system is unable to follow student progress and have a link back to program review.

CSIS should be linked to the higher education data maintained by the California Postsecondary Education Commission (CPEC), and both should have connectivity to EDD in order for the state to develop a process for determining the data to be collected and delivered to decision-makers and education partners.

Because data reporting by the postsecondary segments is uneven, the Joint Committee must establish an effective and reliable mechanism to ensure that postsecondary institutions provide required data consistently, over time, to CPEC.

3.3 The state should focus some portion of postsecondary funding on program/certificate/degree completion, time to completion and education/labor market outcomes rather than only enrollment.

Rationale: A host of research shows that individuals who do not complete degrees receive fewer of the economic benefits of attending higher education. This is particularly true in community college vocational programs, where there are millions of vocational enrollments, and only thousands of graduates. While these enrollments do reflect students knowingly taking only one or two courses at the outset or pursuing English language proficiency or Career Certificates, many students, who originally planned to complete transfer or associate degree requirements, are not completing their programs at this level.

Historically, there has been little or no measure of performance in California's postsecondary education segments. In the past decade, the Partnership for Excellence at the CCCs and the four-year budgetary "compacts" for UC and CSU, have introduced the first measures of postsecondary accountability in California, however, the majority of them have focused on process and essential inputs, including the critical goal of increasing enrollment. Time-to-degree

and graduations rates are the only indicators of institutional performance in these two mechanisms that are directly related to learner outcomes. Appropriations based principally on enrollments have generated large numbers of enrollments and high levels of access, but have not resulted in high performance by other measures. In the 2000 report by the National Center for Public Policy and Higher Education, California is given an A in affordability and a C in completion.

There is a need to ascertain the success of each of these systems in meeting state policy goals, as well as their ability to respond to workforce needs of the state, particularly during weak economies. Effective colleges and universities minimize the "brain drain" in a state and help retain businesses by providing relevant education and training opportunities.

Business members strongly emphasized that the CSU/UC systems should be driven by performance rather than enrollment and that funding should *begin to move* toward more of an investment model versus the current entitlement model. Although it can be argued that the state has failed to fully fund the level of access it promises to Californians, particularly during difficult economic times, the investment model makes clear that the state expects a return on its investment. Similarly, the investment model reinforces the argument that huge returns should not be expected from minimal investment.

The cost of providing high quality education is not understood in sufficient detail to use the investment approach for funding the entire cost of operations in public education. Consequently, some states have elected to tie performance-based funding to only selected areas of institutional operations. For instance, approximately 5 percent of the Ohio system's budget is used to reward outside support for economically important research and producing skilled graduates in a timely manner. At least 10 other states have implemented parameters for new graduation rates, class sizes and faculty productivity. South Carolina's Commission on Higher Education is in the process of implementing a system to distribute 100 percent of its money for public colleges and universities based on 37 performance indicators in nine areas, including instructional quality, quality of faculty, administrative efficiency, graduates' achievements and institutional cooperation and collaboration. Arkansas, California, Hawaii, Louisiana and Virginia have also implemented new accountability measures that connect fiscal resources with institutional performance in some manner.

4. 0 RESOURCES

K-12

4.1 <u>Any proposed funding model must recognize in its K-12 formula for adequacy:</u>

<u>*The costs of recruiting, education and professional development for staff in career technical programs, and contexualized learning; and</u>

<u>*The costs associated with the instructional facilities and equipment required to delivering instruction in career technical programs.</u>

Rationale: Many career technical classes are often smaller than academic classes, in part because the high cost of specialized instructional equipment and the potentially higher risk associated with equipment use. In addition to maintaining career technical facilities, schools must continually update equipment and materials. During testimony before a special hearing of the Joint Committee in 2001, career technical personnel reported that, "in many instances, these programs are using World War II vintage equipment salvaged from state surplus facilities in California".

These programs have been viewed as receiving a disproportionate share of school resources, both monetarily and personnel-wise and were more likely than college preparatory programs to be reduced during times of budgetary restraints. Because this loosely connected system of programs has been less coherent in the past, it is conveniently subject to cutbacks.

Throughout numerous discussions, the general tenor of the group reflected a major focus of the April 2001 Policy Analysis for California Education (PACE) report, which highlights the necessity of "adequate resources". Regarding the potential development of an "adequacy formula" associated with the development of a statewide funding model, if there is a minimum cost threshold associated with providing career technical programs, the following is instructive for California: "on average, the enrollment of smaller districts is not sufficient to ensure a minimum level of instructional quality…and states can address this problem by including an explicit adjustment factor in the vocational formula, as Texas has done, to ensure that small and mid-sized districts are not penalized." [24]

Postsecondary

4.2 Consideration should be given to granting the educational segments flexibility in their internal allocation of funds to address the higher costs associated with career, technical and scientific instruction and contextualized learning more broadly. Specifically:

***The differential cost of recruiting, education and retaining teachers, faculty and support staff in career, technical and scientific disciplines;**

***The differential costs associated with the instructional facilities and equipment required to deliver instruction in career, technical and scientific fields; and**

***The differential costs associated with contextualized learning, including laboratory, field and applied industry experiences.**

Rationale: Because of the dynamics of Proposition 98, greater strategic planning is particularly important to higher education in California to alleviate the uncertain nature of postsecondary funding during the annual budget construction, especially in years of statewide economic distress.

[24] Steven Klein (June 2001). Finance Vocational Education: A State Policymaker's Guide. MPR Associates

At the CCCs and universities, costs for instruction in areas critical to California's workforce needs have outpaced the support available. For instance, the funding formula in community colleges is based on equality. This means nursing programs are very expensive to operate but are funded at the same level as the low cost programs.

Specific strategies are needed to ensure that colleges and universities are able to recruit and retain faculty and technical staff in high demand scientific, engineering, and technical fields to provide advanced information technology infrastructure and to purchase and maintain sophisticated laboratory equipment. Inadequate resources in these areas contribute to extended time to graduation, high attrition rates, and enrollments that are below the levels required to stabilize the workforce.

Business members noted public organizations are particularly responsive to financial incentives and recommended that the Joint Committee give consideration to providing incentives for increasing the number of graduates in high cost fields which are key to the economy, such as computer science, once a performance measurement system is in place. This approach, rather than regulation or traditional manpower planning models, is a better way to align institutions with the labor market. It is impossible for a governmental process to predict where new discoveries will occur, so the institutions need the additional flexibility to concentrate resources in emerging and promising fields.

5. PRIVATE POSTSECONDARY AND VOCATIONAL INSTITUTIONS

5.1 The Joint Committee should conduct a review to determine the most efficacious and effective placement of governance for the Bureau for Private Postsecondary and Vocational Education (BPPVE).

Rationale: This segment was not included in the most recent Master Plan for Higher Education review by the Assembly Committee on Higher Education, due to an uneven record of performance in the industry.

After two sets of major legislative reforms in two consecutive decades, the Bureau was finally moved to the Department of Consumer Affairs in January of 1998, but its record of service has been reported to be unsatisfactory in that agency.

Time did not permit more than cursory focus on BPPVE: however, it should be reviewed as there approximately 2,000-3,000 approved institutions offer career training in California. There have been numerous and sundry complaints regarding the operations of BPPVE.

Conclusion

The most powerful driver to ensure positive change is to create a system with an intense focus on serving the student. This type of focus will demand that the institutions are effectively and efficiently accountable, internally and externally aligned, and are delivering the appropriate academic and career preparation content. With this student focus, this report lays out a vision

that builds on the genius of the original Master Plan for Higher Education by going beyond access to ensure that California's students will reach successful personal and career outcomes upon exiting the educational system. It is this focus on the students and their success that must be honored for the vision of the Master Plan to fulfill the promise for the youth of today and tomorrow.

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4. Chris M. Golde (January 2001). At Cross Purposes: What the Experience of Doctoral Students Reveals About Doctoral Education. Pew Charitable Trust.

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9. Julian R.Betts (2000). The Changing Role of Education in the California Labor Market. Public Policy Institute of California.

10. Edward C. Warburton, Rosio Bugarin, Anne-Marie Nunez (2001). MPR Associates, Inc. and National Center for Education Statistics.

11. Patricia L. de Cos (2000). Raising the Socio-Economic Status of Latinos in California: The Role of the California Community Colleges. California Research Bureau.

12. The National Alliance of Business reports that a 1998 survey of 430 CEOs of product and service companies, identified in the media as the fastest growing U.S. businesses over the last five years, found that 69% of them reported the shortage of skilled, trained workers as a barrier to growth, up 10% from the year before.

13. Laurel Adler (2000). School to Career Activities and Academic Achievement. East San Gabriel Valley Partnership.

14. Paul E. Barton (2002). Facing the Hard Facts in Education Reform: Weak Signals That Academic Achievement is Important.

15. Hilary Pennington (2002). Better and Faster: Accelerating Advancement in School and Work. Aspen Institute Congressional Seminar.

16. Students who complete programs in career tech programs have an opportunity to become apprentices immediately, earning starting pay of $17.40 per hour, with the potential to move to journeymen status and earn $30 per hour.

17. The 1960's and the Civil Rights Movement brought to the nation's attention that the highest percentage of students in college preparation classes were white, with minorities disproportionately assigned to the vocational track, and ultimately unable to qualify for the higher paying jobs requiring a college degree. Two educational goals quickly became "equal access" and "no tracking," which transformed into the notion that all students must take a college prep curriculum in high school

Despite an emphasis on "at-risk" students for the last 40 years, there is still a significant gap between different ethnic groups in the numbers of students who receive high school diplomas and college degrees. For the non college bound, there has been an insufficient offering of concentrated workforce preparation programs in high schools.

18. AB 1873/School To Career

19. Jennifer Cheng (2001). At Home and in School: Racial and Ethnic Gaps in Educational Preparedness. Public Policy Institute of California.

20. CDE/It will take an additional 1,123 more counselors per year to reach the national average by 2005

21. The Designated Subjects Credential is designed for persons coming from industry without formal degrees or credentials and is currently under review by the Commission on Teacher Credentialing and the California Department of Education.

22. Increasing of Role of the Business and Higher Education Communities in Preparing Our Nations's Teachers: A Business-Higher Education Forum Initiative (2001). The National Business Alliance.

23. The STC Interagency Partnership is currently funding the Intersegmental Faculty Articulation Projects in Contextual Learning (ISFA). ISFA funds 6 pilot projects statewide which encourage articulation between the educational segments and provide "best practices" for K-18 admissions and articulation activity, with the goal of improving transitions between K-12, postsecondary education and the California workforce. The project ends in 2002 and could serve as a model for regional collaboration.

24. Steven Klein (June 2001). Financing Vocational Education: A State Policymaker's Guide. MPR Associates.

Charge to the Workforce Preparation and Business Linkages Strategic Planning Work Group

In its Framework to Develop a Master Plan for Education, the Joint Committee articulated the following charge for California's education system in relation to workforce preparation:

California's education system must respond to the challenges of meeting the state's growing need for housing, infrastructure, transportation, other services by increasing its emphasis on career and technical education.

All students must be afforded the opportunity to participate in a cohesive and well-articulated system of career, technical, and academic preparation that prepares them to excel in roles as family members, community members and leaders, and productive workers. Career and technical education programs must have the necessary resources to provide pupils with essential skills for today's dynamic and competitive workplace. These programs must contain sufficient academic rigor to enable students to successfully modify their educational program in pursuit of more academically-oriented objectives.

For the K-12 system, it states:

- *The state must define and maintain challenging education standards for career technical education courses that are appropriate to each field of study and are sufficiently aligned with state academic content standards;*
- *Every district that maintains a high school shall be responsible for ensuring the availability of a sufficient number of career and technical education courses relevant to state and regional workforce needs; and,*
- *Every district that maintains a high school shall be responsible for ensuring that each career and technical education course includes reasonably current technology and equipment to ensure adequate training in the field.*

For the colleges and universities, it states:

- *The statewide governing boards of California's public colleges and universities shall be responsible for defining minimum academic content for career and technical education courses that would warrant credit in their systems and enable successful transfer of a career-oriented student into a more traditional academic program.*

For the business sector, it states:

- *The state should request business and industry leaders to invite the involvement of educators in strategic planning and discussions regarding (1) economic development; and (2) the provision of skill development that will be required of the future workforce.*